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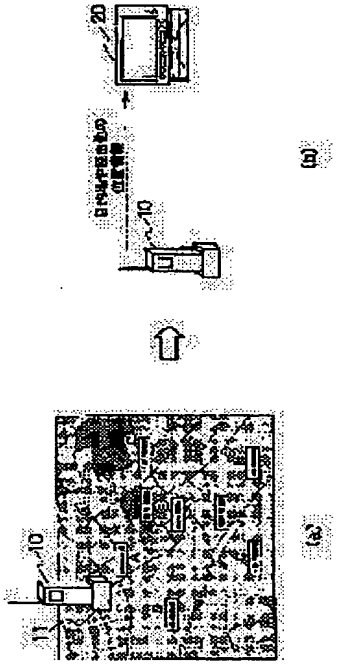
(54) NAVIGATION SYSTEM, PORTABLE INFORMATION PROCESSOR AND ITS CONTROL PROGRAM

(57)Abstract:
PROBLEM TO BE SOLVED: To realize a navigation system having high serviceability by enabling easy inputting of a destination, places which are passed through, etc., outside a car, when a drive plan to the destination is formed outside the car, without enforcing troublesome operation on its user.
SOLUTION: A code data such as a bar code or the like printed on a print such as an atlas or the like is read by the scanner portion 11 of a portable information processor 10, and this code data is converted into position information representing a position of a map co-ordinate system, and is stored in the processor 10. This position information is transmitted to a car navigation apparatus 20 from the processor 10 as occasion demands, and a traveling route for a vehicle is set in the navigation apparatus 20 on the basis of this position information, and route guidance for the vehicle is performed on the basis of this traveling route.



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* NOTICES *

CLAIMS

[Claim(s)]
[Claim 1] While a code data reading means to read the code data which were constituted possible [a cellular phone] and indicated by printed matter in the navigation system which performs path guidance of a car is established The function which changes into the positional information which shows a location [in / for the code data read by said code data reading means / map system of coordinates], and is stored in a storage means, The pocket mold information processor which has the function which reads the positional information stored in said storage means, and is transmitted, The function for it to be carried in said car and to receive said positional information from said pocket mold information processor if needed, The navigation system characterized by having mounted navigation equipment which has the function to set up the transit path of said car based on the positional information received from said pocket mold information processor, and the function to perform path guidance based on the set-up transit path.
[Claim 2] Said mounted navigation equipment is a navigation system according to claim 1 characterized by reception of the positional information transmitted from said pocket mold information processor being enabled by the electric power supply from said small dc-battery in the condition that have a small dc-battery and it is supposed that a main power supply is off.
[Claim 3] Said pocket mold information processor is a navigation system according to claim 1 or 2 characterized by reading the positional information stored in said storage means, and transmitting to said mounted navigation equipment when it has further the function to receive the positional information Request to Send from a user and there is a positional information Request to Send from a user.
[Claim 4] Said mounted navigation equipment and said pocket mold information processor are a navigation system according to claim 1 characterized by transmitting said positional information from said pocket mold information processor to said mounted navigation equipment when it has a short-distance data communication means to perform data communication in a short distance, respectively and the communication link by said short-distance data communication means is established between said mounted navigation equipment and said pocket mold information processor.
[Claim 5] Said pocket mold information processor is a navigation system given in claim 1 thru/or any of 4 they are. [which is characterized by having further the function which transmits and receives said positional information among other pocket mold information processors]
[Claim 6] Said pocket mold information processor is a navigation system given in claim 1 thru/or any of 5 they are. [which is characterized by having further the function which downloads said positional information from other pocket mold information processors]
[Claim 7] The pocket mold information processor which carries out [having the function which is constituted possible / a cellular phone /, changes into the positional information which shows a location / in / for the code data read by said code data reading means / map system of coordinates / while a code data reading means read the code data indicated by printed matter is established, and stores in a storage means, and the function which read the positional information stored in said storage means, and transmit to mounted navigation equipment, and] as the description.
[Claim 8] The pocket mold information processor according to claim 7 characterized by reading the positional information stored in said storage means, and transmitting to said mounted navigation equipment when it has further the function to receive the positional information Request to Send from a user and there is a positional information Request to Send from a user.
[Claim 9] The pocket mold information processor according to claim 7 or 8 characterized by having further the function which transmits and receives said positional information among other pocket mold information processors.
[Claim 10] A pocket mold information processor given in claim 7 thru/or any of 9 they are. [which is characterized by having further the function which downloads said positional information from other pocket mold information processors]
[Claim 11] The control program of the pocket mold information processor which carries out [realizing the function which is constituted possible / a cellular phone /, changes into the positional information which shows a location / in / for the code data read by said code data reading means / map system of coordinates / to the pocket mold information processor with which a code data reading means read the code data indicated by printed matter is established, and stores in a storage means, and the function which read the positional information stored in said storage means, and transmit to mounted navigation equipment, and] as the description.

[Claim 12] The control program of the pocket mold information processor according to claim 11 characterized by making the positional information stored in said storage means read, and making it transmit to said mounted navigation equipment when the positional information Request to Send from a user is in it, while making said pocket mold information processor realize further the function to receive the positional information Request to Send from a user.
[Claim 13] The control program of the pocket mold information processor according to claim 11 or 12 characterized by realizing further the function which transmits and receives said positional information among other pocket mold information processors to said pocket mold information processor.
[Claim 14] The control program of a pocket mold information processor given in claim 11 thru/or any of 13 they are. [which is characterized by realizing further the function which downloads said positional information from other pocket mold information processors to said pocket mold information processor]

[Translation done.]

* NOTICES *

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the control program built into the navigation system which guides a car to the destination, the pocket mold information processor used for this navigation system, and this pocket mold information processor.
[0002]
[Description of the Prior Art] Conventionally, the mounted navigation equipment which performs path guidance according to the actuation input by the user has spread. If the destination and the course ground are inputted by the user, the mounted navigation equipment which performs such path guidance recognizes the current position of a car using GPS (Global Positioning System) etc., selects the optimal path which reaches the destination through the course ground inputted by the user from the current position of a car, and it will be made to perform path guidance, displaying a map required for a display.
[0003] The approach of looking for the destination or the course ground while a user scrolls the map displayed on the display as an approach a user inputs the destination and the course ground, in such mounted navigation equipment, for example, and specifying the destination and the course ground on a map, the approach of making display on a display the chart which the name of main points described, and choosing the desired destination and the desired course ground out of this chart, etc. are common.
[0004] However, by the above approaches, complicated actuation will be forced upon a user and a user's burden becomes large. For this reason, it is related with the mounted navigation equipment which performs path guidance. Various proposals which make a user's burden mitigate as the input of the destination or the course ground can be performed [proposals] simpler are made, for example, it sets to JP,5-241507,A. The bar code corresponding to the location which shows main crossings, sightseeing spots, etc. to an atlas is printed, and the technique of performing the input of the destination or the course ground is indicated by reading the bar code printed by the atlas with the bar code scanner connected to mounted navigation equipment.
[0005] In the mounted navigation equipment which performs path guidance, if the above bar code inputs can perform the input of the destination or the course ground, the alter operation of the destination by the user or the course ground can carry out very simple, and will become what has the good user-friendliness for a user.
[0006]
[Problem(s) to be Solved by the Invention] By the way, planning of the drive plan by the user does not restrict being carried out after a user gets in the car with which mounted navigation equipment was carried, but planning of a drive plan is rather performed with reference to a travel guide etc. out of vehicles, such as a house, in many cases.
[0007] However, with conventional mounted navigation equipment, when a drive plan was drawn up out of a vehicle, the user memorized the destination and the course ground by a certain approach, and since alter operation of the destination or the course ground also including what performs a bar code input which is indicated in JP,5-241507,A could be performed only in the car, after taking the car, these destinations and the course ground needed to be inputted into mounted navigation equipment. For this reason, in spite of having drawn up the drive plan out of the vehicle beforehand, the problem that it cannot leave immediately after entrainment, and the problem of sensing troublesomeness in order that a user may perform the input of the destination or the course ground for storage to reliance had arisen.
[0008] Without being originated in view of the above conventional actual condition, and forcing complicated actuation upon a user, when a drive plan is drawn up out of a vehicle, as this invention can input that destination, course ground, etc. simple out of a vehicle, it aims at offering the control program built into the navigation system which raised convenience sharply, the pocket mold information processor used for this navigation system, and this pocket mold information processor.
[0009]
[Means for Solving the Problem] In the navigation system which performs path guidance of a car, while a code data reading means to read the code data which were constituted possible [a cellular phone] and indicated by printed matter is established, invention according to claim 1 The function which changes into the positional information which shows a location [in / for the code data read by said code data reading means / map system of coordinates], and is stored in a storage means, The pocket mold information processor which has the function which reads the positional information stored in said storage means, and is transmitted, The function for it to be carried in said car and to receive said positional information from said pocket mold information processor if needed,

It is characterized by having mounted navigation equipment which has the function to set up the transit path of said car based on the positional information received from said pocket mold information processor, and the function to perform path guidance based on the set-up transit path.
[0010] Moreover, in a navigation system according to claim 1, said mounted navigation equipment is equipped with a small dc-battery, and invention according to claim 2 is characterized by reception of the positional information transmitted from said pocket mold information processor being enabled by the electric power supply from said small dc-battery in the condition that it is supposed that a main power supply is off.
[0011] Moreover, in a navigation system according to claim 1 or 2, invention according to claim 3 is characterized by reading the positional information stored in said storage means, and transmitting to said mounted navigation equipment, when it has further the function in which said pocket mold information processor receives the positional information Request to Send from a user and there is a positional information Request to Send from a user.
[0012] Moreover, invention according to claim 4 is set to a navigation system according to claim 1. Said mounted navigation equipment and said pocket mold information processor are equipped with a short-distance data communication means to perform data communication in a short distance, respectively. When the communication link by said short-distance data communication means is established between said mounted navigation equipment and said pocket mold information processor, it is characterized by transmitting said positional information from said pocket mold information processor to said mounted navigation equipment.
[0013] Moreover, invention according to claim 5 is characterized by having further the function that said pocket mold information processor transmits and receives said positional information among other pocket mold information processors in a navigation system given in any [claim 1 thru/or] of 4 they are.
[0014] Moreover, invention according to claim 6 is characterized by having further the function in which said pocket mold information processor downloads said positional information from other pocket mold information processors in a navigation system given in any [claim 1 thru/or] of 5 they are.
[0015] Moreover, while a code data reading means to read the code data which invention according to claim 7 was constituted possible [a cellular phone], and were indicated by printed matter is established The function which changes into the positional information which shows a location [in / for the code data read by said code data reading means / map system of coordinates], and is stored in a storage means, It is the pocket mold information processor characterized by having the function which reads the positional information stored in said storage means, and is transmitted to mounted navigation equipment.
[0016] Moreover, in a pocket mold information processor according to claim 7, invention according to claim 8 is characterized by reading the positional information stored in said storage means, and transmitting to said mounted navigation equipment, when it has further the function to receive the positional information Request to Send from a user and there is a positional information Request to Send from a user.
[0017] Moreover, invention according to claim 9 is characterized by having further the function which transmits and receives said positional information among other pocket mold information processors in a pocket mold information processor according to claim 7 or 8.
[0018] Moreover, invention according to claim 10 is characterized by having further the function which downloads said positional information from other pocket mold information processors in a pocket mold information processor given in any [claim 7 thru/or] of 9 they are.
[0019] To moreover, the pocket mold information processor with which a code data reading means to read the code data which invention according to claim 11 was constituted possible [a cellular phone], and were indicated by printed matter is established The function which changes into the positional information which shows a location [in / for the code data read by said code data reading means / map system of coordinates], and is stored in a storage means, It is the control program of the pocket mold information processor characterized by realizing the function which reads the positional information stored in said storage means, and is transmitted to mounted navigation equipment.
[0020] Moreover, in the control program of a pocket mold information processor according to claim 11, while invention according to claim 12 realizes further the function to receive the positional information Request to Send from a user to said pocket mold information processor, when there is a positional information Request to Send from a user, it is characterized by making the positional information stored in said storage means read, and making it transmit to said mounted navigation equipment.
[0021] Moreover, invention according to claim 13 is characterized by realizing further the function which transmits and receives said positional information among other pocket mold information processors to said pocket mold information processor in the control program of a pocket mold information processor according to claim 11 or 12.
[0022] Moreover, invention according to claim 14 is characterized by realizing further the function which downloads said positional information from other pocket mold information processors to said pocket mold information processor in the control program of a pocket mold information processor given in any [claim 11 thru/or] of 13 they are.
[0023]
[Effect of the Invention] By reading the code data which a user shows the destination and course ground of printed matter empty vehicle both transit of an atlas etc. using the code data reading means formed in the pocket mold information processor according to the navigation system concerning this invention The positional information which shows the location in the map system of coordinates of these destinations or the course ground is memorized by the storage means of a pocket mold information processor. Since this positional information is transmitted to mounted navigation equipment if needed and a transit path is set up with mounted navigation equipment When a

user draws up a drive plan out of a vehicle, the destination, course ground, etc. can be inputted simple out of a vehicle. Moreover, since transit guidance of the car based on the transit path set up with mounted navigation equipment is performed after a user gets in a car, transit guidance of a suitable car can be performed, without forcing complicated actuation upon a user.
[0024] Moreover, in the navigation system concerning this invention, since assignment of the destination by the user and the course ground is performed by reading of code data, the actuation burden by the user is sharply mitigable.
[0025] Moreover, in the navigation system concerning this invention, if the function which transmits and receives positional information among other pocket mold information processors is given to a pocket mold information processor, two or more users can gather the positional information separately acquired with each pocket mold information processor, can set up the transit path of a car, and can realize the very high navigation system of utility value.
[0026] Furthermore, in the navigation system concerning this invention, if the function which downloads positional information from other pocket mold information processors is given to a pocket mold information processor, a specific user can make two or more users able to use the positional information acquired with the pocket mold information processor, and the very high navigation system of utility value can be realized.
[0027] Moreover, transit guidance of a suitable car can be performed by using the pocket mold information processor concerning this invention, without forcing complicated actuation upon a user, and the navigation system by which the actuation burden by the user was mitigated sharply can be realized.
[0028] Moreover, according to the control program of the pocket mold information processor concerning this invention, transit guidance of a suitable car can be performed without forcing complicated actuation upon a user, and it becomes possible to give the function for realizing the navigation system by which the actuation burden by the user was mitigated sharply to a pocket mold information processor.
[0029]
[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to a detail with reference to a drawing.
[0030] (1st operation gestalt) The system configuration of the navigation system which applied this invention is roughly shown in drawing 1 . The navigation system 1 shown in this drawing 1 has the composition that transmission and reception of data are performed through a communication line 2, respectively between the pocket mold information processor 10 constituted possible [a cellular phone] and the mounted navigation equipment 20 carried in the car. That is, two or more radio base stations 3 are connected to the communication line 2, respectively, and the data transmitted from the pocket mold information processor 10 are received by mounted navigation equipment 20 through the radio base station 3 and a communication line 2 by the communication link by wireless being performed, respectively between the pocket mold information processor 10 and the radio base station 3 and between mounted navigation equipment 20 and the radio base station 3.
[0031] And in this navigation system 1, by reading code data printed by printed matter, such as an atlas, using the pocket mold information processor 10, such as a bar code and a map code number, the destination and course ground of car transit are specified out of a vehicle, the positional information of these destinations or the course ground is stored in the pocket mold information processor 10, and mounted navigation equipment 20 can be supplied now if needed. And mounted navigation equipment 20 sets up an optimal path based on the positional information supplied from the pocket mold information processor 10, and path guidance is performed so that it may arrive at the destination through the course ground where the car (henceforth a self-car) with which the mounted navigation equipment 20 concerned was carried was specified.
[0032] In addition, code data are data defined as what corresponds by predetermined information and 1 to 1 in conformity with a specific coding scheme here, and positional information is data in which the location in concrete map system of coordinates, such as a destination and a course ground, is shown.
[0033] It has the scanner section 11, the actuation input section 12, the communications department 13, a display 14, a loudspeaker 15, the positional information storage section 16, and a control section 17, and the pocket mold information processor 10 is constituted, as shown in drawing 2 .
[0034] The scanner section 11 is a code data reading means to read optically required code data, for example, the code data in which the destination and course ground of self-car transit are shown, in printed matter, such as an atlas with which code data, such as a bar code which shows the location of main crossings, a sightseeing spot, etc., were printed, according to actuation of a user. Code data, such as a bar code read by this scanner section 11, are supplied to a control section 17.
[0035] The actuation input section 12 is a user interface for receiving the actuation input by the user, for example, consists of a ten key, a jog dial, etc. If a user performs an actuation input using this actuation input section 12, the signal according to that actuation input will be supplied to a control section 17.
[0036] The communications department 13 performs the communication link by wireless between the radio base stations 3 under control by the control section 17, and transmits and receives the data through a communication line 2. The data from the pocket mold information processor 10 will be supplied to the radio base station 3 from this communications department 13, and will be transmitted to mounted navigation equipment 20 through a communication line 2 from the radio base station 3.
[0037] A display 14 displays an image, an alphabetic character, etc. according to control by the control section 17. Moreover, a loudspeaker 15 outputs voice, such as a beep sound, according to control by the control section 17.
[0038] The positional information storage section 16 memorizes temporarily the positional information in map

system of coordinates corresponding to the code data read in printed matter, such as an atlas, by the scanner section 11, such as a destination and a course ground.
[0039] A control section 17 performs a control program of operation, and controls actuation of the pocket mold information-processor 10 whole. This control section 17 is performing a control program of operation, and, specifically, will have each function of code data analysis processing section 17a, writing / read-out control-section 17b, input-process section 17c, 17d of display and control sections, and voice output control-section 17e. In addition, the control program of operation which makes the pocket mold information processor 10 realize the various above functions In case a user is provided with the pocket mold information processor 10, may make it beforehand included in the pocket mold information processor 10, and After a user is provided with the pocket mold information processor 10, it distributes to the pocket mold information processor 10 through a communication line 2 and the radio base station 3 from the data server which offers data distribution service, and you may make it included in the pocket mold information processor 10.
[0040] Code data analysis processing section 17a analyzes the code data read in printed matter, such as an atlas, by the scanner section 11, and acquires the positional information in map system of coordinates corresponding to this code data, such as a destination and a course ground. This code data analysis processing section 17a has the translation table with which code data and the various information corresponding to this were matched and indicated for every various coding schemes, and, specifically, changes into the positional information of the map system of coordinates corresponding to this the code data read in printed matter, such as an atlas, by the scanner section 11 with reference to this translation table.
[0041] While writing / read-out control-section 17b perform the control which writes the positional information changed from code data by code data-analysis processing section 17a in the positional-information storage section 16, it carries out the control which reads the positional information specified by the user out of the positional information stored in the positional-information storage section 16 from the positional-information storage section 16 according to the actuation input by the user using the actuation input section 12. The positional information read from the positional information storage section 16 will be transmitted to mounted navigation equipment 20 by this writing / read-out control-section 17b through a communication line 2 and the radio base station 3 from the communications department 13.
[0042] Input-process section 17c performs various kinds of processings according to the actuation input of the user using the actuation input section 12. Specifically, this input-process section 17c will operate writing / read-out control-section 17b according to this actuation input, if a user performs the actuation input of the purport which transmits the specific positional information stored in the positional information storage section 16 using the actuation input section 12. The specific positional information specified by the user will be read by this out of the positional information stored in the positional information storage section 16, and it will be transmitted to mounted navigation equipment 20.
[0043] 17d of display and control sections controls actuation of a display 14, and they display an image, an alphabetic character, etc. on this display 14. Specifically, 17d of this display and control section performs processing to which the information corresponding to that code data is displayed on a display 14, when code data are read in printed matter, such as an atlas, by the scanner section 11.
[0044] Voice output control-section 17e controls actuation of a loudspeaker 15, and makes voice output from this loudspeaker 15. Specifically, this voice output control-section 17e performs processing to which voice, such as a beep sound for telling a user about that, is made to output from a loudspeaker 15, when code data are read in printed matter, such as an atlas, by the scanner section 11.
[0045] The above pocket mold information processors 10 are realized by incorporating the control program of operation for realizing various functions, such as code data analysis processing section 17a which connected the small scanner to the portable telephone and was specifically mentioned above to the portable telephone, writing / read-out control-section 17b, input-process section 17c, 17d of display and control sections, and voice output control-section 17e. As a pocket mold information processor 10, in addition, besides the above portable telephones For example, a personal digital assistant (PDA), the personal computer of a note type, etc., It can carry, and can have communication facility and the equipment which can perform predetermined information processing can apply widely. Code data analysis processing section 17a which connected the small scanner to these equipments and was mentioned above, It may be made to realize by incorporating the control program of operation for realizing various functions, such as writing / read-out control-section 17b, input-process section 17c, 17d of display and control sections, and voice output control-section 17e.
[0046] It has the communications department 21, nonvolatile memory 22, the small dc-battery 23, the GPS receive section 24, the map database 25, a display 26, a loudspeaker 27, and a control section 28, and mounted navigation equipment 20 is constituted, as shown in drawing 3 .
[0047] The communications department 21 performs the communication link by wireless between the radio base stations 3, and transmits and receives the data through a communication line 2. The positional information (positional information in map system of coordinates corresponding to the code data read in the atlas by the scanner section 11 of the pocket mold information processor 10, such as a destination and a course ground) transmitted from the pocket mold information processor 10 will be supplied to mounted navigation equipment 20 through a communication line 2 and the radio base station 3, and will be received by this communications department 21.
[0048] It connects with the communications department 21 and nonvolatile memory 22 memorizes temporarily the

positional information which was transmitted to mounted navigation equipment 20 from the pocket mold information processor 10, and was received by the communications department 21.
[0049] It is constituted for example, using Li ion cell etc., it connects with the communications department 21, and the small dc-battery 23 is used as a power source of this communications department 21. Reception of data is possible for the communications department 21 also in the condition that a main power supply is off, by the electric power supply of the communications department 21 being carried out from the small dc-battery 23 with mounted navigation equipment 20.
[0050] The GPS receive section 24 is receiving the GPS signal from a GPS Satellite, and acquires the positional information which shows the current position of a self-car in which mounted navigation equipment 20 was carried. The positional information which shows the current position of the self-car acquired by this GPS receive section 24 is supplied to a control section 28.
[0051] The map database 25 consists of a CD-ROM on which required map data were recorded. According to processing by the control section 28, the map data of the specified area can be read now from this map database 25 one by one.
[0052] A display 26 displays map data and the various information which were read from the map database 25 according to control by the control section 28. Moreover, a loudspeaker 27 outputs the voice for showing a travelling direction etc., corresponding to control by the control section 28.
[0053] A control section 28 performs a control program of operation, and controls actuation of the mounted navigation equipment 20 whole. This control section 28 is performing a control program of operation, and, specifically, will have each function of routing processing section 28a, path guidance processing section 28b, display and control section 28c, and 28d of voice output control sections.
[0054] Routing processing section 28a Positional information from the pocket mold information processor 10 which is received by the communications department 21 and is temporarily memorized by nonvolatile memory 22 (by the scanner section 11 of the pocket mold information processor 10) Based on the positional information in map system of coordinates corresponding to the code data read in the atlas, such as a destination and a course ground, and the positional information which shows the current position of the self-car acquired by the GPS receive section 24, processing which sets up the transit path of a self-car is performed. Namely, if the main power supply of mounted navigation equipment 20 is switched on and mounted navigation equipment 20 is started, this routing processing section 28a The positional information which shows the destination and the course ground is read from nonvolatile memory 22. Based on the positional information which shows the destination read from this nonvolatile memory 22, and the course ground, and the positional information which shows the current position of the self-car acquired by the GPS receive section 24, the transit path of the self-car which reaches the destination through the course ground specified from the current position of a self-car is set up.
[0055] Path guidance processing section 28b guides transit of a self-car so that a self-car may run the transit path set up by routing processing section 28a appropriately. Path guidance processing section 28b grasps the current position of a self-car based on the positional information acquired by the GPS receive section 24, and, specifically, performs processing which superimposes the current position of a self-car on map data, and is displayed on a display 26 while it reads required map data from the map database 25 and making it display them on a display 26, when a transit path is set up by routing processing section 28a. Moreover, path guidance processing section 28b performs processing which shows the travelling direction of a self-car, such as making the voice which directs right-turn and left turn output from a loudspeaker 27 etc., when for example, a self-car approaches the crossing which should turn to the right or turn left.
[0056] According to processing by path guidance processing section 28b, display and control section 28c controls actuation of a display 26, and displays map data required for this display 26, and various information.
[0057] 28d of voice output control sections controls actuation of a loudspeaker 27, and they make the voice which shows the travelling direction of a self-car from this loudspeaker 27 output according to processing by path guidance processing section 28b.
[0058] At the navigation system 1 constituted as mentioned above, in case a user draws up a drive plan outside vehicles, such as a house, as shown in drawing 4 (a), the destination and the course ground can be specified by reading code data, such as a bar code printed by printed matter, such as an atlas, using the scanner section 11 of the pocket mold information processor 10. And the code data in which the destination read in the scanner section 11 and the course ground are shown It is changed into the positional information of map system of coordinates by the control section 17 of the pocket mold information processor 10, and the positional information storage section 16 memorizes temporarily. By performing the actuation input of the purport to which a user transmits positional information using the actuation input section 12 of the pocket mold information processor 10, after all reading of required code data is completed Or automatically, termination of all reading of required code data transmits the positional information of the destination memorized by the positional information storage section 16 or the course ground from the pocket mold information processor 10 to mounted navigation equipment 20, as shown in drawing 4 (b).
[0059] Nonvolatile memory 22 is made to memorize the received positional information with mounted navigation equipment 20, if the positional information of the destination transmitted from the pocket mold information processor 10 or the course ground is received until a main power supply is turned on. And if a main power supply is set to ON, mounted navigation equipment 20 will read the positional information of the destination memorized by nonvolatile memory 22 or the course ground, will set up the transit path of a self-car based on this, and will perform

path guidance according to this transit path.
[0060] Here, with reference to the flow chart of drawing 5 , it explains concretely that the processing in the above navigation systems 1 flows.
[0061] First, in step S1-1, according to actuation of a user, the code data in which the destination, the course ground, etc. are shown from printed matter, such as an atlas, are read by the scanner section 11 of the pocket mold information processor 10, and a control section 17 is supplied. Moreover, when code data are read by the scanner section 11, it is that information, such as the name of a place corresponding to code data as a beep sound outputted from a loudspeaker 15 according to control by voice output control-section 17e of a control section 17 or shown in a display 14 at drawing 6 according to control by 17d of display and control sections of a control section 17, is displayed, and a user is shown that reading of code data was performed.
[0062] Next, in step S1-2, the code data which were read by the scanner section 11 and supplied to the control section 17 are changed into the positional information which shows the location of the destination in map system of coordinates, or the course ground by code data analysis processing section 17a of a control section 17. And in step S1-3, the positional information changed by code data analysis processing section 17a is written in the positional information storage section 16 according to control by the writing / read-out control-section 17b of a control section 17.
[0063] Next, it is judged by input-process section 17c of a control section 17 whether directions of the purport which ends reading of the code data for that the code data in which the actuation input which reads in the actuation input section 12 of the pocket mold information processor 10, and shows termination in step S1-4 is performed, or it reads by the scanner section 11, and termination is shown are read, etc. and specifying the destination and the course ground from a user were made. Here, when directions of the purport which ends reading of code data are not made, it will return to step S1-1 and same processing will be performed repeatedly.
[0064] On the other hand, when directions of the purport which ends reading of code data are made next, in step S1-5, processing which chooses the specific positional information specified by the user from the positional information stored in the positional information storage section 16 by input-process section 17c of a control section 17 is performed according to the actuation input of the user using the actuation input section 12 of the pocket mold information processor 10. And in step S1-6, it is judged by input-process section 17c of a control section 17 whether the directions input of the purport which transmits the selected positional information to mounted navigation equipment 20 was made by the user.
[0065] If it is judged that the directions input of the purport which transmits the selected positional information to mounted navigation equipment 20 here was made next, it will set to step S1-7. It responds to control by the writing / read-out control-section 17b of a control section 17. The positional information which the specific positional information specified by the user was read out of the positional information stored in the positional information storage section 16, and was read from this positional information storage section 16 is transmitted to mounted navigation equipment 20 through a communication line 2 and the radio base station 3 from the communications department 13.
[0066] In step S1-8, it is received by the communications department 21 of mounted navigation equipment 20, and the positional information transmitted to mounted navigation equipment 20 is memorized by nonvolatile memory 22 until the main power supply of mounted navigation equipment 20 serves as ON. And the positional information memorized by nonvolatile memory 22 by routing processing section 28a of a control section 28 when the main power supply of mounted navigation equipment 20 was set to ON, Namely, the positional information which shows the destination specified by the user and the course ground is read, and it sets to step S1-9. The transit path of a self-car is set up by routing processing section 28a based on the positional information read from this nonvolatile memory 22, and the positional information which shows the current position of the self-car acquired by the GPS receive section 24. And according to the transit path set up by this routing processing section 28a, path guidance is performed by path guidance processing section 28b, and a series of processings in the navigation system 1 which applied this invention are completed.
[0067] As explained above, in the navigation system 1 which applied this invention, a user can specify the destination and the course ground now by reading code data, such as a bar code printed by printed matter, such as an atlas, in the scanner section 11 of the pocket mold information processor 10. And the code data read in the scanner section 11 of the pocket mold information processor 10 are changed into the positional information of concrete map system of coordinates by the control section 17, and are temporarily stored in the positional information storage section 16, and the positional information which shows the location in the map system of coordinates of this destination and course ground is supplied to mounted navigation equipment 20 if needed. Therefore, transit of a car can be started promptly, without according to this navigation system 1, carrying out the input of the destination or the course ground anew, after being able to use the pocket mold information processor 10, being able to perform the input of that destination, course ground, etc. simple out of a vehicle and a user's getting in a self-car when a user draws up a drive plan out of a vehicle. Moreover, in this navigation system 1, since it is made to perform assignment of the destination and the course ground by reading code data, such as a bar code, actuation is easy and it is very user-friendly.
[0068] In addition, various technical modification is possible for the navigation system 1 explained above in the range which illustrates the example of 1 application of this invention concretely, and does not deviate from the meaning of this invention. By the navigation system 1 mentioned above, specifically The positional information which shows the location in the map system of coordinates of the destination or the course ground stored in the positional

information storage section 16 of the pocket mold information processor 10 Although it is transmitted to mounted navigation equipment 20 from the pocket mold information processor 10 when the actuation input of the purport which directs transmission of positional information is made, it may be made to transmit positional information from the pocket mold information processor 10 to mounted navigation equipment 20 automatically.
[0069] In this case, after all reading of the code data based on the scanner section 11 is completed, the pocket mold information processor 10 changes these code data into positional information, and transmits them to mounted navigation equipment 20 suitably. As the communications department 21 of mounted navigation equipment 20 mentioned above at this time, it will be received by the receive section 21 of mounted navigation equipment 20, and the positional information transmitted from the pocket mold information processor 10 by the electric power supply from the small dc-battery 23 also in the condition that the main power supply of mounted navigation equipment 20 is off since reception of data was always possible will be temporarily memorized by nonvolatile memory 22.
[0070] As mentioned above, since it is not necessary to perform the actuation input whose user directs transmission of positional information when positional information from the pocket mold information processor 10 to mounted navigation equipment 20 is made to be transmitted automatically, the navigation system which raised convenience further is realizable.
[0071] (2nd operation gestalt) Next, the navigation system of the 2nd operation gestalt which applied this invention is explained. As the navigation system of this 2nd operation gestalt is shown in drawing 7 , the short-distance data communication sections 18 and 29 are formed in the pocket mold information processor 10 and mounted navigation equipment 20, respectively, and data communication in the short distance which used Bluetooth, IrDA, etc. between the pocket mold information processor 10 and mounted navigation equipment 20 is performed. And in the navigation system of this 2nd operation gestalt, if a user carries in the pocket mold information processor 10 in a self-car and turns ON the main power supply of mounted navigation equipment 20, the power-source ON signal which shows that the main power supply of mounted navigation equipment 20 is ON will be transmitted to the pocket mold information processor 10 from mounted navigation equipment 20. And the pocket mold information processor 10 will transmit the positional information which shows the location in the map system of coordinates of the destination or the course ground to mounted navigation equipment 20 by short-distance data communication, if this power-source ON signal is received.
[0072] In the navigation system of this 2nd operation gestalt, since positional information is transmitted from the pocket mold information processor 10 to mounted navigation equipment 20 as mentioned above after the main power supply of mounted navigation equipment 20 is set to ON, it is not necessary to connect the small dc-battery 23 to the communications department 21 of mounted navigation equipment 20. In addition, in the navigation system of this 2nd operation gestalt, since it is the same as that of the navigation system 1 of the 1st operation gestalt mentioned above about other configurations, hereafter, about the same configuration as the navigation system 1 of the 1st operation gestalt, the same sign is attached among drawing and the duplicate explanation is omitted.
[0073] In the navigation system of the 2nd above operation gestalt As shown in drawing 8 (a), a user reads required code data in printed matter, such as an atlas, using the scanner section 11 of the pocket mold information processor 10. In the condition of having changed the read code data into positional information, and having stored in the positional information storage section 16 If this pocket mold information processor 10 is carried in in a self-car and mounted navigation equipment 20 is started, the communication link by short-distance data communication, such as Bluetooth, will be established between the pocket mold information processor 10 and mounted navigation equipment 20. Since the short-distance data communication section 18 of the pocket mold information processor 10 which searched for the communications partner to which the short-distance data communication section 29 of mounted navigation equipment 20 exists most in near at this time, and was carried in in the self-car serves as nearest communications partner, a communication link will be established between the pocket mold information processor 10 and mounted navigation equipment 20. And if the communication link by short-distance data communication is established between the pocket mold information processor 10 and mounted navigation equipment 20, as shown in drawing 8 (b), the power-source ON signal which shows that the main power supply of mounted navigation equipment 20 serves as ON from mounted navigation equipment 20 to the pocket mold information processor 10 will be transmitted.
[0074] If a power-source ON signal is received from mounted navigation equipment 20, the communications department 21 of mounted navigation equipment 20 will check that it is in the condition which can receive data, will read the positional information which shows the location in the map system of coordinates of the destination or the course ground stored in the positional-information storage section 16, and will transmit the pocket mold information processor 10 to mounted navigation equipment 20 based on this power-source ON signal. By this, the transit path of a self-car will be set up in mounted navigation equipment 20, and path guidance according to this transit path will be performed.
[0075] Here, with reference to the flow chart of drawing 9 , it explains concretely that the processing in the navigation system of the 2nd above operation gestalt flows.
[0076] First, in step S2-1, it is changed into the positional information the code data read by the scanner section 11 in step S2-2 by reading the code data in which the destination, the course ground, etc. are shown indicate the location of the destination in map system of coordinates, or the course ground to be from printed matter, such as an atlas, by code data analysis processing section 17a of a control section 17 by the scanner section 11 of the pocket mold information processor 10 according to actuation of a user. And in step S2-3, the positional information changed by code data analysis processing section 17a is written in the positional information storage section 16

according to control by the writing / read-out control-section 17b of a control section 17.
[0077] Next, in step S2-4, it is judged by input-process section 17c of a control section 17 whether directions of the purport which ends reading of the code data for specifying the destination and the course ground from a user were made. Here, when directions of the purport which ends reading of code data are not made, it will return to step S2-1 and same processing will be performed repeatedly.
[0078] If the pocket mold information processor 10 is carried in in the self-car with which mounted navigation equipment 20 was carried and mounted navigation equipment 20 is started in step S2-5 on the other hand after directions of the purport which ends reading of code data are made next, in step S2-6, the communication link by short-distance data communication, such as Bluetooth, will be established between the pocket mold information processor 10 and mounted navigation equipment 20. And in step S2-7, the power-source ON signal which shows that the main power supply of mounted navigation equipment 20 serves as ON from mounted navigation equipment 20 to the pocket mold information processor 10 is transmitted by short-distance data communication.
[0079] It is based on the power-source ON signal transmitted to the pocket mold information processor 10 from mounted navigation equipment 20. If it is checked by the pocket mold information processor 10 that the communications department 21 of mounted navigation equipment 20 is in the condition which can receive data next, it will set to step S2-8. It responds to control by the writing / read-out control-section 17b of the control section 17 of the pocket mold information processor 10. The positional information which the positional information stored in the positional information storage section 16 was read, and was read from this positional information storage section 16 is transmitted to mounted navigation equipment 20 by short-distance data communication from the communications department 13 from the pocket mold information processor 10.
[0080] If positional information is transmitted to mounted navigation equipment 20 from the pocket mold information processor 10, in step S2-9, the transit path of a self-car will be set up based on the positional information transmitted from this pocket mold information processor 10 by mounted navigation equipment 20, and the positional information which shows the current position of the self-car acquired by the GPS receive section 24. And path guidance is performed by mounted navigation equipment 20 according to this transit path, and a series of processings in the navigation system of the 2nd operation gestalt are completed.
[0081] In the navigation system of the 2nd operation gestalt explained above If a user carries in the pocket mold information processor 10 in a self-car, turns ON the main power supply of mounted navigation equipment 20 and makes the communication link between the pocket mold information processor 10 and mounted navigation equipment 20 establish Since it will be automatically transmitted to mounted navigation equipment 20 from the pocket mold information processing terminal 10, the positional information which shows the location in the map system of coordinates of the destination or the course ground stored in the pocket mold information processor 10 It is not necessary to perform the actuation input whose user directs transmission of positional information using the pocket mold information processor 10, and further improvement in convenience can be aimed at.
[0082] In addition, although the power-source ON signal which shows that the main power supply of mounted navigation equipment 20 is ON is transmitted to the pocket mold information processor 10 from mounted navigation equipment 20 by short-distance data communication in the example explained above, it may be made to perform transmission of this power-source ON signal through a communication line 2. That is, when the main power supply of mounted navigation equipment 20 is set to ON, a power-source ON signal is transmitted from mounted navigation equipment 20 through a communication line 2 to the pocket mold information processor 10. And the pocket mold information processor 10 which received this checks that it is in the condition in which reception of data has the possible communications department 21 of mounted navigation equipment 20 based on this power-source ON signal, and transmits the positional information of the destination or the course ground through a communication line 2 to mounted navigation equipment 20. And the transit path of a self-car will be set up based on the positional information of a mounted navigation equipment 20 smell lever, and path guidance according to this transit path will be performed.
[0083] Since it is not necessary to perform the actuation input whose user directs transmission of positional information also in this case using the pocket mold information processor 10, further improvement in convenience can be aimed at. Moreover, the above navigation systems are realizable, making simpler the configuration of the pocket mold information processor 10 and mounted navigation equipment 20 in this case, since it is not necessary to form the short-distance data communication sections 18 and 29 in the pocket mold information processor 10 and mounted navigation equipment 20.
[0084] (3rd operation gestalt) Next, the navigation system of the 3rd operation gestalt which applied this invention is explained. The navigation system of this 3rd operation gestalt presupposes that it is the same as that of the navigation system of the 1st operation gestalt which mentioned the basic configuration above, and the 2nd operation gestalt, and differs from the navigation system of the 1st operation gestalt which that use gestalt mentioned above, and the 2nd operation gestalt. Namely, the pocket mold information processor 10 which the pocket mold information processor 10 can transmit and receive positional information now among other pocket mold information processors 10, and an operator possesses is made to collect the information into which users other than an operator used and read the pocket mold information processor 10 of self, and this collected information can transmit now from an operator's pocket mold information processor 10 to mounted navigation equipment 20 in the navigation system of this 3rd operation gestalt.
[0085] The navigation system of this 3rd operation gestalt is very effective when a certain user makes it run the car with which mounted navigation equipment 20 was carried for example, and it drops in at two or more friends' house

one by one, and setting up that transit path.
[0086] The case where a certain user N makes it run the car with which mounted navigation equipment 20 was carried hereafter, and it drops in at Friend's A house, Friend's B house, and Friend's C house, respectively is mentioned as an example, and it explains concretely. In this case, it requests beforehand User N contacting Friends A, B, and C in advance, and transmitting the positional information of the address of each one of houses to User's N pocket mold information processor 10.
[0087] In the navigation system of the 3rd operation gestalt, Friends A, B, and C receive the request from User N, and read code data, such as a bar code which shows the location near [which was printed by the atlas etc. in the scanner section 11 of the pocket mold information processor 10 of self, respectively] a house. The code data read in the scanner section 11 of each [these] pocket mold information processor 10 are changed into the positional information which shows the location of map system of coordinates by the control section 17 of each pocket mold information processor 10, respectively. And as shown in drawing 10 (a), the positional information which shows the location near Friends' A, B, and C house from Friends' A, B, and C pocket mold information processor 10 to User's N pocket mold information processor 10 will be transmitted.
[0088] The electronic mail function prepared in the pocket mold information processor 10 is used for transmission of this positional information. In order to discriminate that the data transmitted to User's N pocket mold information processor 10 are positional information required for routing in mounted navigation equipment 20 from Friends' A, B, and C pocket mold information processor 10, you may make it add the discernment flag which you may make it attach characteristic titles, such as "NABIDETA --", to the subject name of an electronic mail, and shows that it is positional information to the header and footer of a message file of an electronic mail here.
[0089] In User's N pocket mold information processor 10, when the positional information which shows the location near Friends' A, B, and C house from Friends' A, B, and C pocket mold information processor 10 is transmitted, respectively, while collecting these and making the positional information storage section 16 memorize, as shown, for example in drawing 11 , the transmitting origin of information, such as the name of a place corresponding to such positional information, or positional information etc. is displayed on a display 14. And when the screen of this display 14 is referred to by User N and required positional information is chosen, as this selected positional information is read from the positional information storage section 16, for example, it is shown in drawing 10 (b), it will be transmitted to mounted navigation equipment 20 from User's N pocket mold information processor 10.
[0090] With mounted navigation equipment 20, if positional information is transmitted from User's N pocket mold information processor 10, the transit path of a car will be set up based on such positional information and the positional information which shows the current position of the car acquired by the GPS receive section 24. And path guidance is performed so that a car may run in this transit path.
[0091] Here, with reference to the flow chart of drawing 12 , it explains that the processing in the navigation system of the 3rd above operation gestalt flows.
[0092] First, in step S3-1, it is changed into the positional information the code data in which code data were read in, respectively and were read by each [these] pocket mold information processor 10 in step S3-2 indicate the location in map system of coordinates to be from printed matter, such as an atlas, by the scanner section 11 of two or more pocket mold information processors 10 according to actuation of two or more users, respectively. And in step S3-3, the positional information changed from code data is temporarily memorized by the positional information storage section 16.
[0093] Next, in step S3-4, it is judged every pocket mold information processor 10, respectively whether directions of the purport which ends reading of the code data using the pocket mold information processor 10 of self from each user were made. And at the pocket mold information processing terminal 10 at which directions of the purport which ends reading of code data were made, the positional information memorized by the positional information storage section 16 is read, and this positional information is transmitted in step S3-5 to the pocket mold information processor 10 which the operator of the self-car with which mounted navigation equipment 20 was carried possesses.
[0094] If positional information is transmitted to an operator's pocket mold information processor 10 from each user's pocket mold information processor 10, these positional information will be temporarily stored in the positional information storage section 16 of an operator's pocket mold information processor 10, and the screen for checking the contents of positional information as shown in drawing 11 will be displayed on the display 15 of an operator's pocket mold information processor 10 in step S3-6. And if the screen displayed on this display 15 by the operator is referred to and required positional information is chosen, next, the positional information chosen by this user in step S3-7 will be read from the positional information storage section 16, and will be transmitted to mounted navigation equipment 20.
[0095] If positional information is transmitted to mounted navigation equipment 20 from an operator's pocket mold information processor 10 next, in step S3-8, the transit path of a self-car will be set up based on the positional information transmitted by the control section 28 of mounted navigation equipment 20 from this operator's pocket mold information processor 10, and the positional information which shows the current position of the self-car acquired by the GPS receive section 24. And path guidance is performed by mounted navigation equipment 20 according to this transit path, and a series of processings in the navigation system of the 3rd operation gestalt are completed.
[0096] In the navigation system of the 3rd operation gestalt explained above, since two or more users put together to the pocket mold information processor 10 with which an operator possesses the positional information acquired

separately, make an operator use such positional information and mounted navigation equipment 20 can perform routing, the very high navigation system of utility value is realizable.
[0097] (4th operation gestalt) Next, the navigation system of the 4th operation gestalt which applied this invention is explained. The navigation system of this 4th operation gestalt presupposes that it is the same as that of the navigation system of the 1st operation gestalt which mentioned the basic configuration above, and the 2nd operation gestalt as well as the navigation system of the 3rd operation gestalt, and differs from the navigation system of the 1st operation gestalt which that use gestalt mentioned above, and the 2nd operation gestalt. Namely, in the navigation system of this 4th operation gestalt, other users can use now the information which the pocket mold information processor 10 can download positional information now from other pocket mold information processors 10, and one user read using the pocket mold information processor 10 of self.
[0098] When going to the queuing location which a certain user ran the car with which mounted navigation equipment 20 was carried, for example, and was specified by other users, in case the navigation system of this 4th operation gestalt sets up a transit path with mounted navigation equipment 30, it is very effective.
[0099] The case where it goes to the queuing location which a certain user N ran the car with which mounted navigation equipment 20 was carried hereafter, and was specified by Friend A is mentioned as an example, and it explains concretely.
[0100] In the navigation system of the 4th operation gestalt, in case Friend A specifies a queuing location, code data, such as a bar code which shows the location of the queuing location printed by the atlas etc. in the scanner section 11 of the pocket mold information processor 10 of self, are read. This code data is changed into the positional information which shows the location of map system of coordinates by the control section 17 of Friend's A pocket mold information processor 10, respectively, and is stored in the positional information storage section 16. At this time, the control section 17 sets up the access permission from other users to the positional information which shows this queuing location.
[0101] User N accesses Friend's A pocket mold information processor 10 using the pocket mold information processor 10 of self, as shown in drawing 13 (a). Friend A is made to open to URL of dedication which installed the data which carried out the access permission in the pocket mold information processor 10 of self, and enables it to specifically access URL of dedication installed in Friend's A pocket mold information processor 10 as this access approach using the Internet connectivity protocol for User's N pocket mold information processors, such as for example, C-HTML. And if URL of dedication by which User N was installed in Friend's A pocket mold information processor 10 using the pocket mold information processor 10 of self is accessed, the positional information the access permission was done [positional information] to the display 15 of User's N pocket mold information processor 10 by Friend A will be displayed as a chart.
[0102] With reference to the chart displayed on the display 15 of this pocket mold information processor 10, User N chooses the positional information downloaded out of it, and performs the actuation input of the purport which downloads the selected positional information. The positional information which shows by this the location of the queuing location specified by Friend A from Friend's A pocket mold information processor 10 to User's N pocket mold information processor 10 will download.
[0103] In User's N pocket mold information processor 10, download of the positional information which shows the location of a queuing location from Friend's A pocket mold information processor 10 stores this positional information in the positional information storage section 16 temporarily. And if the actuation input of the purport which transmits this positional information to mounted navigation equipment 20 by User N is made, as this positional information is read from the positional information storage section 16, for example, it is shown in drawing 13 (b), it will transmit to mounted navigation equipment 20.
[0104] With mounted navigation equipment 20, transmission of the positional information which shows the location of a queuing location from User's N pocket mold information processor 10 sets up the transit path of a car based on this positional information and the positional information which shows the current position of the car acquired by the GPS receive section 24. And path guidance is performed so that a car may run in this transit path.
[0105] Here, with reference to the flow chart of drawing 14 , it explains that the processing in the navigation system of the 4th above operation gestalt flows.
[0106] First, in step S4 -1, according to actuation of a certain specific user, the code data in which a queuing location etc. is shown are read in printed matter, such as an atlas, by the scanner section 11 of the pocket mold information processor 10, and the code data read by this specific user's pocket mold information processor 10 in step S4 -2 are changed into the positional information which shows the location in map system of coordinates. And in step S4 -3, the positional information changed from code data is temporarily memorized by the positional information storage section 16 in the condition which can be accessed from other users.
[0107] Next, in step S4 -4, if access is made to a specific user's pocket mold information processor 10 from the pocket mold information processor 10 which the operator of the self-car with which mounted navigation equipment 20 was carried possesses, in step S4 -5, the positional information the access permission was done [positional information] to the display 15 of an operator's pocket mold information processor 10 by the specific user will be displayed as a chart. And if the screen displayed on this display 15 by the operator is referred to and required positional information is chosen, the positional information chosen by this operator in step S4 -6 will download next to the pocket mold information processor 10 which an operator possesses from the pocket mold information processor 10 which a specific user possesses.
[0108] Download of the positional information which shows a queuing location to the pocket mold information

processor 10 which an operator possesses transmits [next] this positional information to mounted navigation equipment 20 automatically in step S4 -7, corresponding to the actuation input by the operator. And in step S4 -8, the transit path of the car which makes a queuing location the destination is set up based on the positional information which shows the queuing location transmitted from an operator's pocket mold information processor 10 by mounted navigation equipment 20, and the positional information which shows the current position of the car received by the GPS receive section 24. And path guidance of each car is performed by each mounted navigation equipment 20 according to this transit path, and a series of processings in the navigation system of the 4th operation gestalt are completed.

[0109] In the navigation system of the 4th operation gestalt explained above, since a specific user makes other users use the positional information acquired using the pocket mold information processor 10 of self and other mounted navigation equipments 20 can perform routing based on this positional information, the very high navigation system of utility value is realizable.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is drawing showing the system configuration of the navigation system which applied this invention.
[Drawing 2] It is the block diagram of the pocket mold information processor which constitutes the navigation system of the 1st operation gestalt.
[Drawing 3] It is the block diagram of the mounted navigation equipment which constitutes the navigation system of the 1st operation gestalt.
[Drawing 4] It is the mimetic diagram showing notionally the use gestalt of the navigation system of the 1st operation gestalt, and (a) shows signs that code data were read in printed matter, such as an atlas, with the pocket mold information processor, and (b) shows signs that positional information was transmitted to mounted navigation equipment from the pocket mold information processor.
[Drawing 5] It is the flow chart which shows the flow of the processing in the navigation system of the 1st operation gestalt.
[Drawing 6] It is drawing showing the pocket mold information processor with which the information corresponding to the read code data was displayed on the display.
[Drawing 7] It is the block diagram of the pocket mold information processor which constitutes the navigation system of the 2nd operation gestalt, and mounted navigation equipment.
[Drawing 8] It is the mimetic diagram showing notionally the use gestalt of the navigation system of the 2nd operation gestalt, and (a) shows signs that code data were read in printed matter, such as an atlas, with the pocket mold information processor, and (b) shows signs that positional information was transmitted to mounted navigation equipment from the pocket mold information processor by short-distance data communication.
[Drawing 9] It is the flow chart which shows the flow of the processing in the navigation system of the 2nd operation gestalt.
[Drawing 10] It is the mimetic diagram showing notionally the use gestalt of the navigation system of the 3rd operation gestalt, and (a) shows signs that positional information was transmitted to User's N pocket mold information processor from Friends' A, B, and C pocket mold information processor, and (b) shows signs that the positional information collected with User's N pocket mold information processor was transmitted to mounted navigation equipment.
[Drawing 11] It is drawing showing signs that the screen for checking the contents of the positional information transmitted to the display of User's N pocket mold information processor from Friends' A, B, and C pocket mold information processor was displayed.
[Drawing 12] It is the flow chart which shows the flow of the processing in the navigation system of the 3rd operation gestalt.
[Drawing 13] It is the mimetic diagram showing notionally the use gestalt of the navigation system of the 4th operation gestalt, and (a) shows signs that the positional information which shows a queuing location to User's N pocket mold information processor from Friend's A pocket mold information processor downloaded, and (b) shows signs that the positional information which shows a queuing location to mounted navigation equipment from User's N pocket mold information processor was transmitted.
[Drawing 14] It is the flow chart which shows the flow of the processing in the navigation system of the 4th operation gestalt.
[Description of Notations]
1 Navigation System
10 Personal Digital Assistant
11 Scanner Section
12 Actuation Input Section
13 Communications Department
16 Positional Information Storage Section
17 Control Section
17a Code data analysis processing section
17b Writing / read-out control section
20 Mounted Navigation Equipment
21 Communications Department
22 Nonvolatile Memory

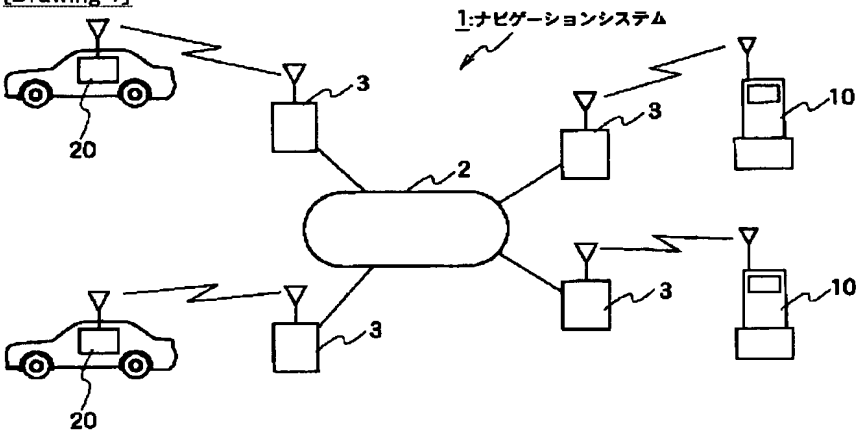
23 Small Dc-battery
28 Control Section
28a Routing processing section
28b Path guidance processing section

[Translation done.]

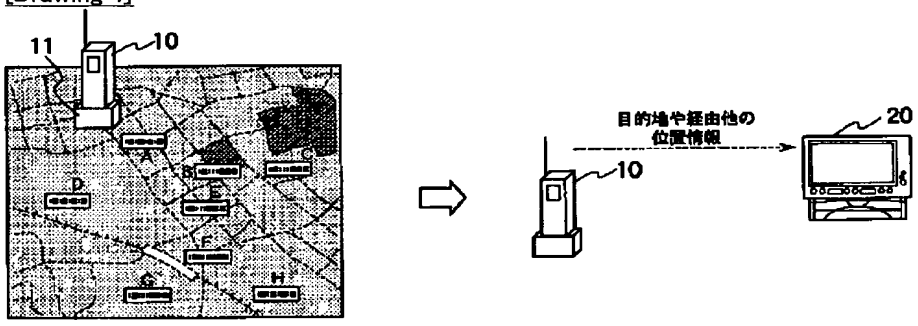
* NOTICES *

DRAWINGS

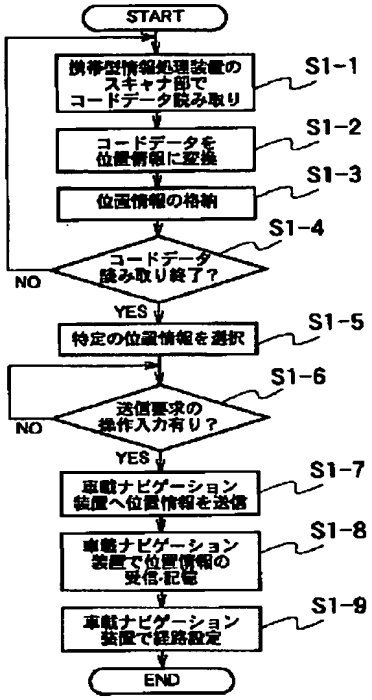
[Drawing 1]



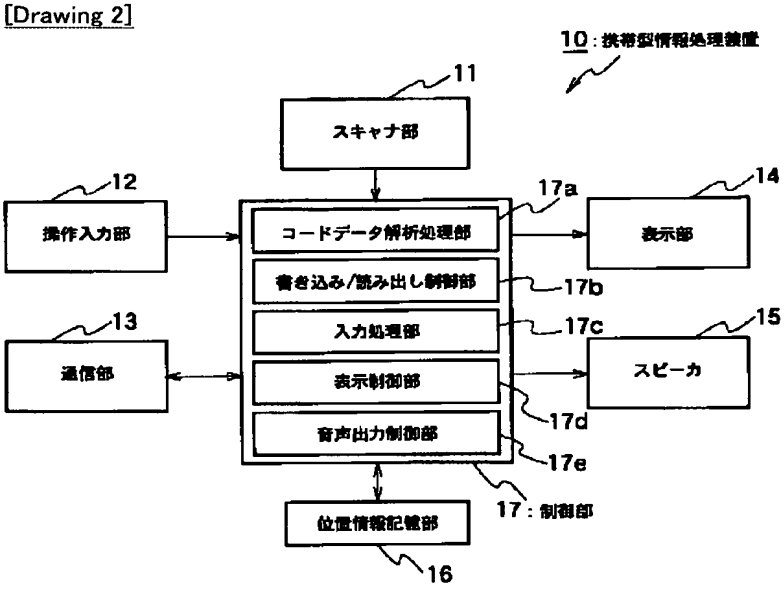
[Drawing 4]



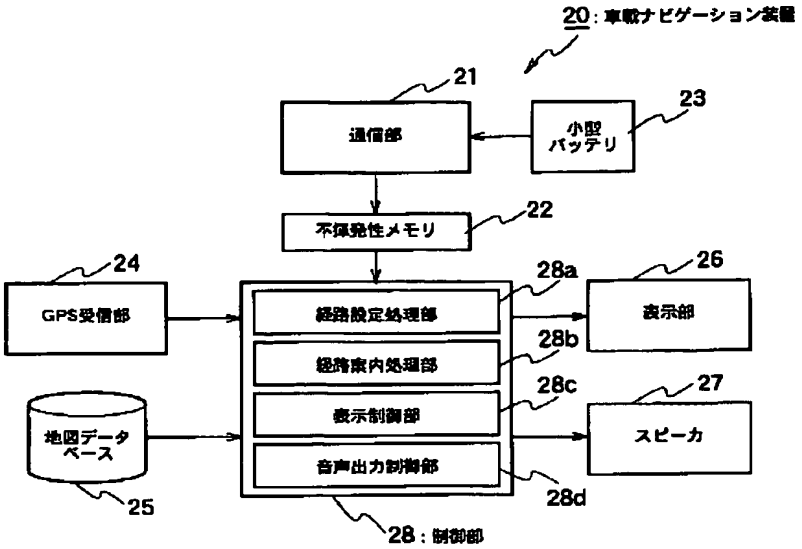
[Drawing 5]



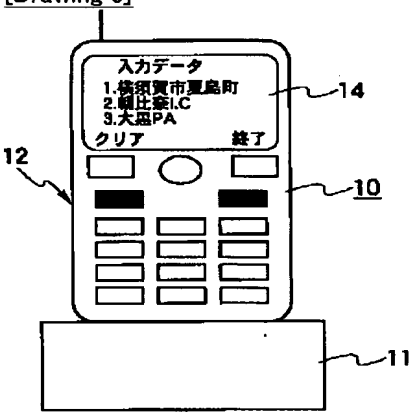
[Drawing 2]



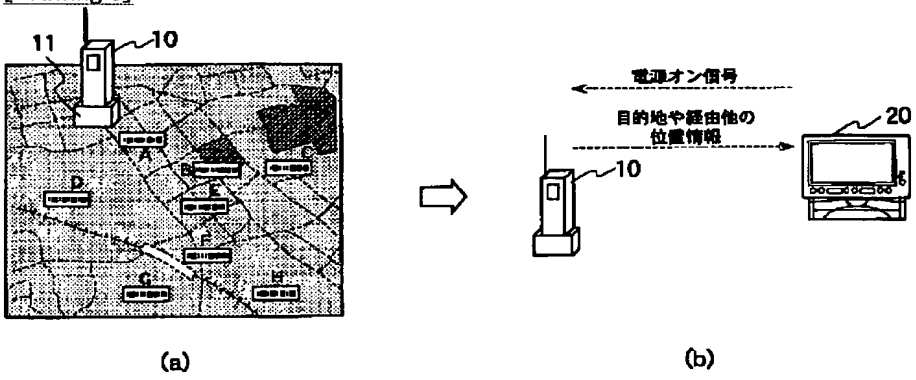
[Drawing 3]



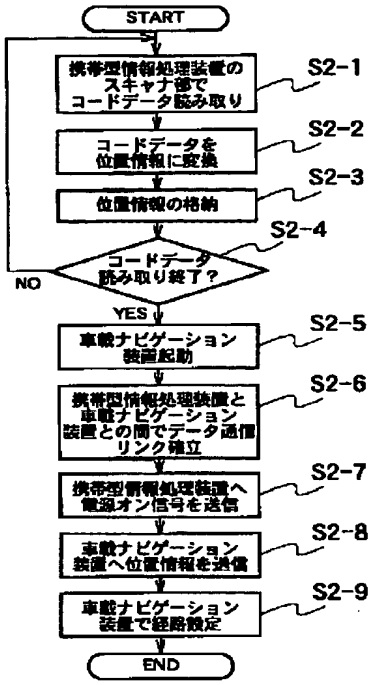
[Drawing 6]



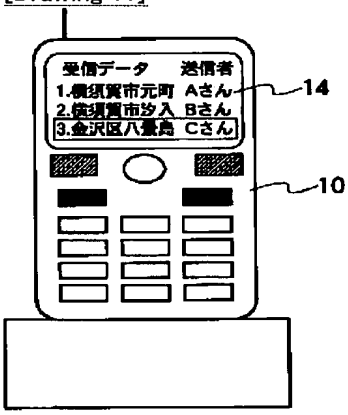
[Drawing 8]



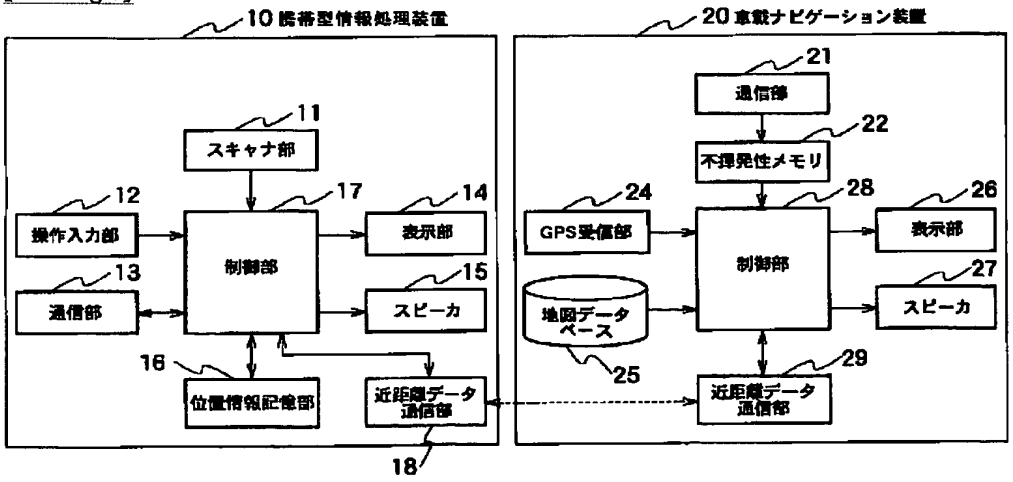
[Drawing 9]



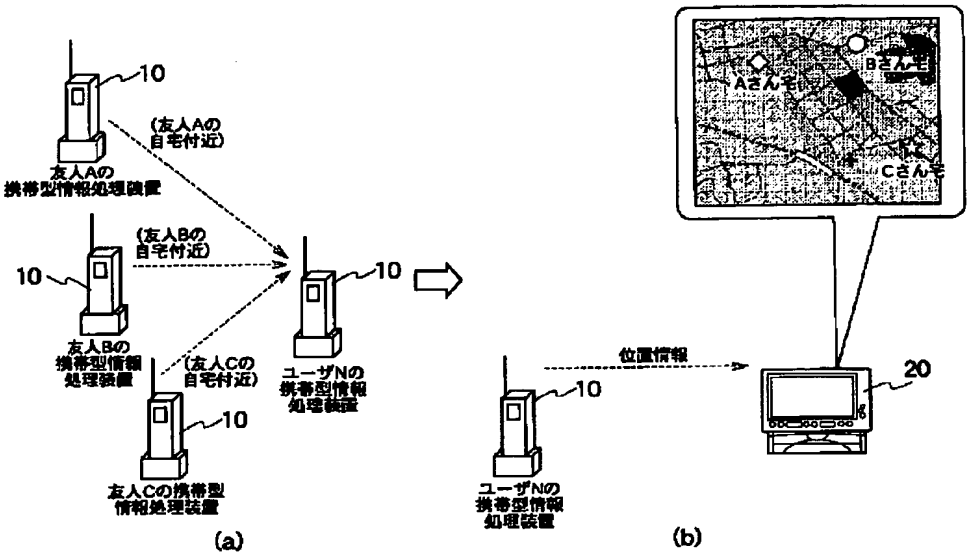
[Drawing 11]



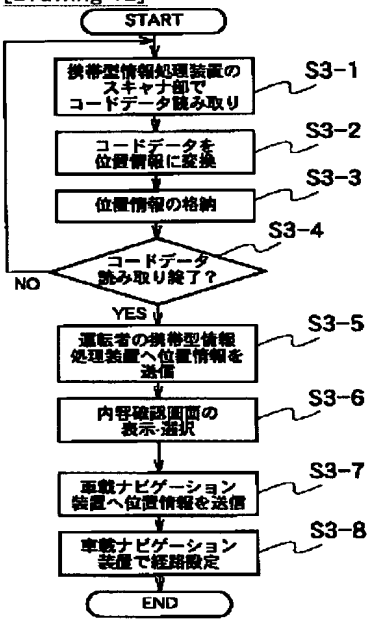
[Drawing 7]



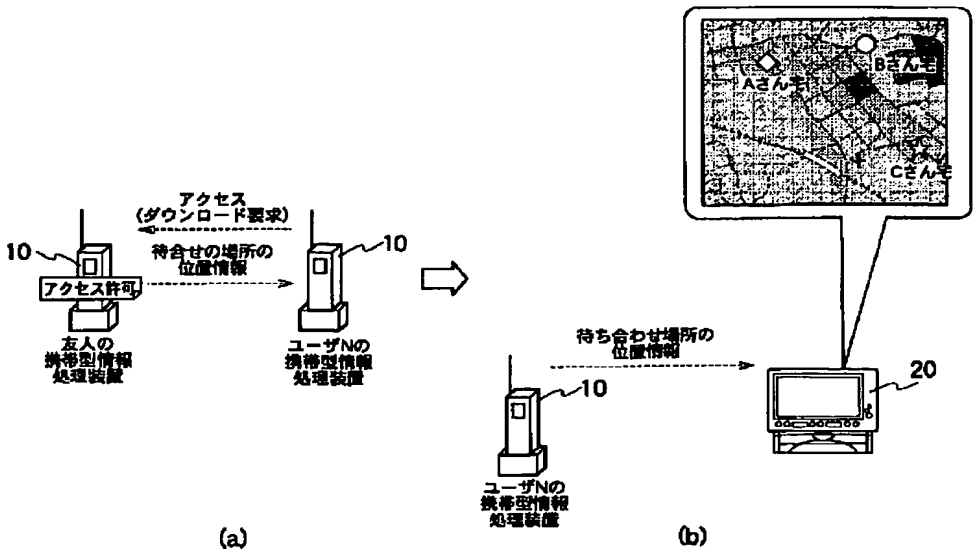
[Drawing 10]



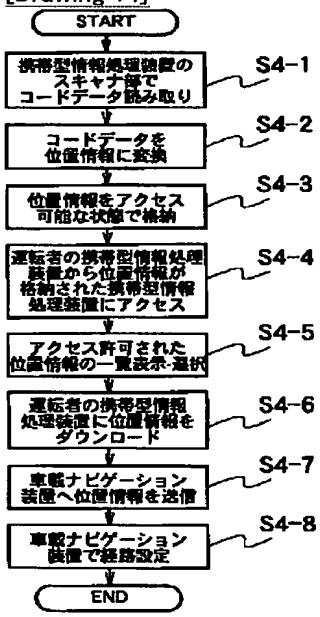
[Drawing 12]



[Drawing 13]



[Drawing 14]



[Translation done.]